

New Claims

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- 10 5 1. Encapsulated spark gap arrangement for use in power supply systems, in particular low-voltage systems and optimized ability to extinguish system secondary currents as well as with an arcing chamber, within which arcing occurs between two electrodes in the spark gap, wherein downstream of the arcing chamber there is disposed an intermediate chamber the volume of which is substantially larger than the volume of the arcing chamber itself, and wherein there is further provided a pressure-resistant, preferably metallic flow channel to connect the arcing chamber to the intermediate chamber.
- 15 2. Encapsulated spark gap arrangement according to Claim 1, characterized in that the volume of the high-pressure region, consisting of arcing chamber and flow channel, is related to the volume of the low-pressure region of the intermediate chamber as approximately 1:10, and the ratio between the
- 20 volumes of the arcing chamber and the intermediate chamber is 1:40.
- 25 3. Encapsulated spark gap arrangement according to Claim 1 or 2, characterized in that the intermediate chamber (5) on its inner surface comprises metallic walls or is coated with metal layers.
- 30 4. Encapsulated spark gap arrangement according to one or more of the claims 1 to 3, characterized in that the walls of the intermediate chamber (5) are covered on their inner surfaces with a plastic (10) that gives off a quenching gas when heated.

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5. Encapsulated spark gap arrangement according to Claim 4, characterized in that the intermediate chamber (5) comprises means af additional elimination of heat.

6. Encapsulated spark gap arrangement according to Claim 5, characterized by metallic cooling surfaces or cooling ribs as a means of additional elimination of heat.

7. Encapsulated spark gap arrangement according to one or more of the claims 1 to 6, characterized in that the flow channel (4) is nozzle-shaped and has a smaller diameter than the intermediate chamber.

8. Encapsulated spark gap arrangement according to one or more of the claims 1 to 7, characterized in that the volume of the intermediate chamber (5) is made large enough that the entire amount of gas produced by ignition in the arcing chamber (3) is retained therein.

9. Encapsulated spark gap arrangement according to one or more of the claims 1 to 8, characterized in that the flow channel projects into the intermediate chamber (5) and guide means (11) are provided therein to divert the gas flow.